AMENDMENT AND RESPONSE UNDER 37 C.F.R § 1.111
Serial Number: 10/695,430
Filing Date: October 28, 2003
Title: SYSTEM AND METHOD FOR MONITORING AUTONOMIC BALANCE AND PHYSICAL ACTIVITY

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IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended)   An implantable device comprising:

an autonomic tone sensor to provide a tone signal as a function of a sympathetic nervous system and as a function of a parasympathetic nervous system for a predetermined period of time;

an activity sensor to provide an activity signal as a function of physical activity corresponding to the predetermined period; and

an information processing unit connected to the autonomic tone sensor and connected to the activity sensor and adapted to generate an output signal based upon a relationship between the tone signal and the activity signal ~~reflective as to how the tone signal varies with the activity signal~~, establish a baseline that correlates different tone signals with different activity signals over a predetermined period of time, compare the output signal to the [[a]] baseline ~~value~~, and classify a patient's health status based upon the comparison.

2. (Original)   The device of claim 1 wherein the autonomic tone sensor includes at least one sensor selected from any combination of a group including a heart rate sensor, a nerve electrode, a biochemical sensor, a ventilation sensor and a muscle activity sensor.

3. (Original)   The device of claim 1 wherein the activity sensor includes an adaptive rate therapy sensor.

4. (Original)   The device of claim 1 wherein the activity sensor includes at least one sensor selected from any combination of a group including a minute ventilation sensor, an accelerometer, a respiratory sensor, a QT interval sensor, an impedance sensor, a contractility sensor and a depolarization sensor.

5. (Original)   The device of claim 1 further including a telemetry circuit connected to the information processing unit to communicate with a remote device.

6. (Original)   The device of claim 1 further including a therapy circuit connected to the information processing unit.

7. (Original)   The device of claim 6 wherein the therapy circuit includes a pulse generator.

8. (Original)   The device of claim 1 further including a memory connected to the information processing unit and adapted to store a code as a function of the output signal.

9. (Original)   The device of claim 1 wherein the autonomic tone sensor includes an implanted electrical lead.

10. (Original) The device of claim 1 wherein the information processing unit includes a processor.

11-19. (Canceled)

20. (Currently Amended)   A method comprising:

generating an autonomic tone signal as a function of autonomic tone detected during an epoch using an implantable sensor;

obtaining an activity signal as a function of physical activity during the epoch; and

generating an output signal based upon a relationship between the tone signal and the activity signal reflective as to how the tone signal varies with the activity signal, establishing a baseline that correlates different tone signals with different activity signals over a predetermined period of time, compare comparing the output signal to the [[a]] baseline value, and classify classifying a patient's health status based upon the comparison .

21. (Original) The method of claim 20 wherein generating an autonomic tone signal includes determining heart rate variability.

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22. (Original) The method of claim 21 wherein determining heart rate variability includes measuring intervals between successive heart beats.

23. (Original) The method of claim 20 wherein obtaining the activity signal includes receiving a minute ventilation signal.

24. (Original) The method of claim 23 wherein receiving the minute ventilation signal includes determining an impedance.

25. (Original) The method of claim 20 wherein obtaining the activity signal includes receiving an acceleration signal.

26. (Original) The method of claim 20 further including classifying the autonomic tone signal as a function of the activity signal for the epoch.

27. (Previously Presented)   The method of claim 26 further including comparing the epoch with stored data accessible to an implantable processor.

28. (Original) The method of claim 27 wherein the stored data includes data derived from a selected population.

29. (Original) The method of claim 20 wherein generating an output signal includes providing a warning.